

Mannington® ADURA® APEX Hexagon Installation Guidelines

GENERAL INFORMATION

These installation guidelines are for fully adhered ADURA® APEX Hexagon. All recommendations are based on the most recent available information. All instructions must be followed for a satisfactory installation. Visit our website at www.Mannington.com/HexagonInstallation for most current installation information including helpful videos.

- Acclimate flooring and the room at a constant temperature between 65°F and 85°F for 48 hrs. prior to and during installation. Temperature of the room should not go below 55°F after 48 hours after installation and anytime thereafter.
- Install only after the jobsite has been cleaned and cleared of other trade apparatus that may damage a finished installation.
- Mix and install product from several different cartons to achieve maximum variation. ADURA® APEX Hexagons are not directional tiles that can be rotated to achieve more variation
- All subfloor/underlayment patching must be done with a non-shrinking, water-resistant, high-quality Portland cement patching or leveler compound.
- Never install ADURA® APEX Hexagon products over residual asphalt-type (cut back) adhesive. It can bleed through the new flooring. Residual asphalt-type adhesive must be completely removed and covered with underlayment plywood or high quality latex underlayment.
- ADURA® APEX Hexagon products are adhered with Mannington M-Grip™. M-Grip™ is a modified acrylic based, transitional hard set adhesive.
- ADURA® APEX Hexagon products must be adhered to a properly prepared concrete or wood substrate.

SUBFLOOR INFORMATION

Careful and correct preparation of the subfloor is a major part of a satisfactory installation. Roughness or unevenness of the subfloor may telegraph through the new floor covering, resulting in an unsightly surface and excessive wear on high spots. Subfloor must be flat within 3/16" in 10' and 1/32" in 12".

CAUTION: Use only non-staining fasteners with underlayment panels. These fasteners are typically made from galvanized or stainless steel. The procedure of gluing and screwing underlayment panels is not recommended. Solvent-based construction adhesives are known to stain vinyl floor coverings. All responsibility for discoloration problems caused by fastener staining or the use of construction adhesive rests with the underlayment installer.

Wood Subfloors

- All wood floors must be suspended at least 18" above the ground. Adequate cross-ventilation must be provided, and the ground surface of a crawl space must be covered with a suitable vapor barrier. Wood subfloors cannot exceed 14% moisture content. Wood subfloors directly on concrete or installed over sleeper construction are not satisfactory for installation. Wood subfloors should be covered with a minimum 1/4" or heavier underlayment rated panel to assure successful finished flooring installation. All wood substrate should be smooth, flat, clean, dry, and structurally sound.

• Underlayment: Many times, wood panel subfloors are damaged during the construction process or are not of underlayment grade. These panels should be covered with an approved underlayment. Underlayment panels are intended to provide a smooth surface on which to adhere the finished floor covering. It must be understood that underlayment panels cannot correct structural deficiencies. Particleboard, chipboard, construction-grade plywood, any hardboard or flakeboard are not recommended for underlayment. All have inadequate uniformity, poor dimensional stability, and variable surface porosity. Mannington will not accept responsibility for adhered installation over these subfloors. In all cases, the underlayment manufacturer or underlayment installer is responsible for all underlayment warranties. If the surface of the wood subfloor is not smooth, a 1/4" underlayment panel should be installed over the subfloor. Any panels selected as an underlayment must meet the following criteria:

- o Be dimensionally stable
- o Have a smooth, fully sanded face so the graining or texturing will not show through
- o Be resistant to both static and impact indentation
- o Be free of any surface components that may cause staining such as plastic fillers, marking inks, sealers, etc.
- o Be of uniform density, porosity and thickness
- o Have a written warranty for suitability and performance from the panel manufacturer or have a history of proven performance subfloor.

Concrete Subfloors

- Concrete subfloors should meet requirements prescribed in ASTM F710 "Standard Practice for preparing concrete floors to receive Resilient Flooring."
- Concrete subfloors must have a minimum compressive strength of 3000 psi and dry density of at least 100 pounds per cubic foot.
- Concrete subfloors must be dry, smooth, and free from dust, solvent, paint, wax, grease, oil, asphalt sealing compounds and other extraneous materials. The surface must be hard and dense, and free from powder or flaking. Surface of the subfloor should be **flat within 3/16" in 10' and 1/32" in 12"**.
- New concrete slabs must be thoroughly dry (at least six weeks) and completely cured. Curing agents, surface hardeners and other additives may cause adhesive bonding failure. These should be removed by sanding or grinding.
- All concrete subfloor systems must meet or exceed local building code specifications. For concrete slabs that are on or below grade it is required that they be constructed so ground water vapor cannot penetrate.
- All concrete slabs must be checked for moisture before installing material. Details for moisture testing can be found on our website. The final responsibility for determining if the concrete is dry enough for installation of the flooring lies with the floor covering installer. ADURA®APEX Hexagon must never be installed where excessive moisture emissions may exist. When using M-Grip™, moisture emission from subfloor cannot exceed 10 lbs. per 1,000 sq. ft. per 24 hours as measured with the calcium chloride test in accordance with ASTM F1869-04 or ASTM F2170 In Situ Relative Humidity not to exceed 95%. Mannington will not assume responsibility for floor covering failure due to hydrostatic pressure or moisture vapor emission. New concrete slabs must be thoroughly dry (at least six weeks) and completely cured. Although the material is not susceptible to damage from moisture, excessive subfloor moisture is an ideal breeding ground for mold, mildew and fungus. All of which can contribute to an unhealthy indoor environment. The Limited Warranties do not cover discoloration from mold or from flooding, leaking plumbing or appliances, water entering through sliding glass doors or similar conditions.
- Holes, grooves, expansion joints and other depressions must be filled with high-quality portland based Patching or Leveling Compound, troweled smooth, and feathered even with the surrounding surface. Slab should be flat within 3/16" in 10' and 1/32" in 12".
- Concrete floors with a hydronic radiant heating system are satisfactory, provided the temperature of the floor does not exceed 85°F at any point. Additionally, there must be a minimum 1/2" thick topping between the heat source and finished product. Before installing the flooring, the heating system should be turned on to eliminate residual moisture. Mannington does not recommend electric heated floor mats for ADURA®APEX Hexagon products.

Recommended Work Practices for Removal of Resilient Floor Coverings

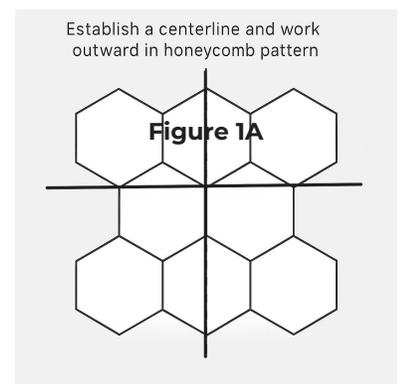
WARNING: Do not sand, dry scrape, bead blast or mechanically chip or pulverize existing resilient flooring, backing, lining felt, asphaltic “cutback” adhesive or other adhesive. These products may contain asbestos fibers and/or crystalline silica. Avoid creating dust. Inhalation of such dust is a cancer and respiratory tract hazard. Smoking by individuals exposed to asbestos fibers greatly increases the risk of serious bodily harm. Unless positively certain that the product is a non-asbestos-containing material, you must presume it contains asbestos. Regulations may require that the material be tested to determine asbestos content. RFCI’s Recommended Work Practices for Removal of Resilient Floor Coverings are a defined set of instructions addressed to the task of removing all resilient floor covering structures. These instructions should be consulted with each installation. The link can be found on our website. See www.mannington.com or go to www.rfci.com.

Existing Floor Coverings

- To achieve maximum product performance with ADURA®APEX Hexagon, it is always best work practice to remove existing floors when possible. However, ADURA®APEX Hexagons can be installed over fully bonded hard surface flooring. Mannington cannot extend adhesive bond warranty over existing floors.
- Existing floors must be flat, smooth, dry, clean, structurally sound, and well bonded.
- Special consideration for moisture concerns must be given when installing over existing floors on concrete below or on grade level.
- In the rare cases that the removal of the existing resilient floor covering is not an option, the existing flooring must be covered with a high quality cement based Embossing Leveler. Existing sheet vinyl floors should not be heavily cushioned and consist of only one layer.

INSTALLATION

As with all tile formats, ADURA®APEX Hexagons should be “balanced” in the work area. Although, hexagon tiles may seem difficult to layout, they really are not. It can be simplified by using two basic measurements. Width of the hexagon is approximately 11.75" and the length (point to point) is approximately 13.6". These two measurements allow the tile to be properly balanced in the installation area. The room must be accurately measured to square off the area and to determine the center point. Accurately measure the room to determine the center line, adjust this established line to accommodate a balanced layout and then transpose this line to the determined layout width away from the starting wall (approximately 2' to 3' wide - see Figure 1A). Apply the adhesive in this area and begin installing tiles.



Adhesive Application

Mannington M-Grip™ adhesive is required for adhering ADURA®APEX Hexagon to all approved substrates. Apply the adhesive with a 1/16" wide, 1/16" deep, and 1/16" apart U notched trowel. Begin applying adhesive at the intersection of the chalk lines; spread the adhesive in the pre-determined area. The M-Grip™ adhesive should be given sufficient open time so the glue becomes tacky (approximately 10-25 minutes). Open/flash time will vary depending on substrate porosity and ambient conditions. The adhesive must be sufficiently tacky to prevent tile slippage during placement. The M-Grip™ should also transfer glue to the back of the hexagon tile. M-Grip™ will provide approximately 2.5 hours of working time. After that the adhesive becomes dry and loses its tack. If this happens, in the same day and there is no contamination, the trowel ridges can be re-wet with a 3/8" nap roller. However, if the glue sits overnight it must be scraped up and spread again using the proper trowel.

Adhesive Clean up: Wet M-Grip™ can easily be cleaned with a damp microfiber cloth. Dry M-Grip™ adhesive may be removed with isopropyl alcohol using a microfiber cloth. In some cases it may be necessary to use mineral spirits. If mineral spirits is used it will require isopropyl alcohol to remove the mineral spirits oily residue.

Tile Installation

After the M-Grip™ has had sufficient open time, begin laying the tile at the intersection of the working lines. Be certain this tile is installed squarely on the lines. After the first tile is in place, begin laying tiles outward along both guide lines. Press tiles firmly against adjoining tiles and press into the adhesive. The built in grouting ledge will form a unified 3/16" grout spacing when they are butted tightly.

Maintain the squareness of the installation by keeping tiles along guide lines. Lay all tiles mixing them randomly out of several boxes. Ensure that the tiles are firmly bonded to the subfloor by rolling the entire installation with a minimum 75-pound three-section floor roller.

Cutting or Fitting Border Tiles and Planks

ADURA®APEX Hexagons can be cut with a guillotine cutter or by using the score snap and score the back technique. Direct or pattern scribe the flooring to fit into complicated, irregular walls or pipes, etc.

Grouting

ADURA®APEX Hexagon tiles are designed to be grouted using Mannington ADURA® Grout. Specific installation procedures must be followed when installing and grouting ADURA®APEX Hex. Visit Mannington.com/HexagonInstallation for a helpful video.

Required tools/materials:

- o Mannington M-Grip™ adhesive
- o 1/16" x 1/16" x 1/16" U notch trowel
- o Mannington ADURA® Grout
- o Grout float and margin trowel
- o Quality grouting sponges
- o Buckets of clean water
- o Mannington Ultra Tile and Grout Cleaner

Procedure:

- Be certain that the tiles are firmly bonded to the substrate by re-rolling the entire installation with a minimum 75-pound three-section floor roller just prior to grouting. Clean any debris and adhesive from grout joints. Only ADURA® Grout may be used with ADURA® APEX Hexagon tiles. This pre-mixed grout has been developed to bond to LVT tiles it is flexible and durable. Never use cement-based, epoxy or furan grout.
- Clean the tiles with a dampened sponge. Apply the grout into the tile joints with the narrow edge of the rubber float. Firmly pack the tile joint in each direction as to leave no voids or skips. As each tile joint is grouted, remove excess grout from tile edges with the stiff edge of the float pulled in a 45° angle across each joint. Grout only in small increments and clean each section as you go. Never apply grout in an area greater than 12 square feet before cleaning. Do not wait more than 8 min before starting clean up.
- To clean, soak sponge in cold clean water. Wring out excess water completely. Use small circular motions to break up grout on the tile and smooth out the 3/16" grout joint. Soak and wring out sponge clean again. Wipe tiles clean by drawing the sponge diagonally across the tile, flip sponge over and repeat. Avoid excess water in the grout joint. Repeat procedure as necessary. When cleaned properly the grout haze will be minimal and can be removed easily with neutral household cleaner. Once again, do not use excessive water during clean up. Be certain to wipe diagonally across tile joints to avoid dragging grout from the joint. Rinse this sponge frequently and change the cleanup water frequently. Thoroughly remove all residual grout and grout haze before leaving the job.
- If a slight grout haze is noticed after 24 hours, it can be removed by using Mannington Ultra Tile and Grout cleaner (SAP #429361 / Color #803970) per directions. Do not use chemical grout cleaners. If skips or voids in the grout joint are discovered after final clean-up, they can be filled by applying new grout directly over the fresh grout.

Finishing the Job:

- Protect all exposed edges of ADURA® by installing wall molding and/or transition strips. Caulk along tubs, toilet flange, etc. using 100% silicone caulking. Do not wash the floor or allow rolling traffic for 48 hours after installation. After 48 hours, use damp mop to remove residual surface dirt. Follow appropriate maintenance schedule for ADURA® APEX Hexagon by using Mannington Ultra Clean or Mannington Ultra Tile and Grout cleaner.

Repairing ADURA®APEX Hexagon

Although the wear surface of ADURA®APEX Hexagon is durable, it is not bulletproof. Should an accident occur that damages the surface of the product, a repair procedure exists. The key to this process is having ample material available to replace the damaged area(s). This should be considered when placing the original order. Extra tiles and grout should be wrapped in their packaging and stored in an interior, climate-controlled location. To remove a tile, gently heat with a hot air blower to allow the material to become more flexible. Insert a thin 2" wide putty knife in the seam and gently lift up. You may find it helpful to cut the damaged product into smaller pieces. Be careful not to damage the surrounding tiles.

Remove the damaged tile from the floor. It may be necessary to patch the substrate. Use a razor scraper to remove any built up M-Grip™ adhesive. Remove any grout from the surrounding hexagons. Use the proper trowel to spread new M-Grip™, provide sufficient open time (typically 20 minutes) and then position the tile into the repair area. Use a hand roller to firmly seat the tile. Wait a minimum of one hour before grouting the surrounding area.

Regrouting ADURA®APEX Hexagon tile: ADURA® Grout can be applied over properly prepared existing grout. Carefully remove old grout at least 1/2 the grout thickness. Clean grout area and apply new grout following instructions above.

CAUTIONS AND MISCELLANEOUS

- Furniture and appliances should be moved onto the newly installed floor using an appliance hand truck over hardboard runways.
- Do not place heavy items on newly installed floor covering for at least 24 hours after completion of the installation. Heavy furniture should be equipped with suitable non-staining, wide-bearing caster or protectors. Non-staining felt protectors are recommended for table and chair legs to help prevent scratching.
- Floor covering subjected to excessive heat and light is subject to thermal degradation. Use appropriate precautions to minimize potential effects on the floor covering.
- Oil or petroleum-based products can result in surface staining. Do not track asphalt-driveway sealer or automobile-oil drips onto the vinyl floor covering.
- Mats used for ADURA® are to be labeled "non-staining". Rubber, cocoa-backed or latex backed mats may discolor ADURA®APEX Hexagon.
- Inspect all flooring prior to installation. If you have any questions or concerns, please contact Mannington's Customer Care team at 800-356-6787. Claims will not be accepted for product that has not been inspected prior to installation.

U.S. Patent 6,291,078; U.S. Patent 6,218,001; U.S. Patent 7,384,697 and other patents pending.

**Be sure to register your new floor at
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\$100 and for proper warranty coverage.**